

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte PHILLIP SPRANGLE, RAHMAN HAFIZI,
GLENN JOYCE and PHILIP SERAFIM

Appeal No. 97-0128
Application No. 08/098,989¹

ON BRIEF

Before HAIRSTON, MARTIN, and RUGGIERO, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 6-8, and 10-15. An amendment after final rejection was filed March 1, 1995 and was entered by the Examiner. As a

¹ Application for patent filed July 29, 1993.

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result of this amendment, the Examiner allowed claims 2-5 and 9 as indicated in the advisory action mailed March 23, 1995.

The claimed invention relates to a system for the development of a conditioned electron beam for application to a free-electron source of coherent radiation. More particularly, Appellants indicate at page 3 of the specification that the system includes sources for generating an electron beam and microwaves and a magnetic wiggler responsive to the generated electron beam and microwaves to develop the conditioned electron beam.

Claim 1 is illustrative of the invention and reads as follows:

1. A system for developing a conditioned electron beam of a final quality for application to a free-electron source of coherent radiation, said system comprising:

means for producing an electron beam having a predetermined energy and initial quality;

means for generating microwaves; and

a magnetic wiggler responsive to the electron beam from said producing means and to the microwaves from said generating means for developing the conditioned electron beam of final quality, higher than the initial quality, to enhance the operation of the free-electron source of coherent radiation.

The Examiner relies on the following references:

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Brau et al. (Brau) 1981	4,287,488	Sep. 01,
Piestrup 1992	5,107,508	Apr. 21,

Claims 1, 6-8, 10, and 12-14 stand finally rejected
35 U.S.C. § 103 as being unpatentable over Brau. Claims 11
and 15 stand finally rejected under 35 U.S.C. § 103 as being
unpatentable over Brau in view of Piestrup. Rather than
reiterate the arguments of Appellants and the Examiner,
reference is made to the Briefs² and Answers for the
respective details thereof.

OPINION

We have carefully considered the subject matter on
appeal, the rejections advanced by the Examiner and the
evidence
of obviousness relied upon by the Examiner as support for the
rejections. We have, likewise, reviewed and taken into
consideration, in reaching our decision, Appellants'

² The Appeal Brief was filed April 21, 1995. In response
to the Examiner's Answer dated May 30, 1995, a Reply brief was
filed June 30, 1995. The Examiner entered the Reply Brief and
submitted a supplemental Examiner's Answer dated April 4,
1996. The Examiner submitted a further supplemental Examiner's
Answer dated July 24, 1996 in response to a supplemental Reply
Brief filed by Appellants on May 6, 1996.

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arguments set forth in the Briefs along with the Examiner's rationale in support of the rejections and arguments in rebuttal

set forth in the Examiner's Answers. It is our view, after consideration of the record before us, that the collective evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 1, 6-8, and 10-15. Accordingly, we reverse.

Appellants have indicated (Brief, page 3) that, for the purposes of this appeal, all of the claims subject to each rejection will stand or fall together. Consistent with this indication, Appellants have made no separate arguments with respect to any of the claims within each rejected group. Accordingly, we will consider the claims separately only to the extent that separate arguments are of record in this appeal.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine,

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F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hospital Systems, Inc. v.

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Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933

(Fed.

Cir. 1984). These showings by the Examiner are an essential part

of complying with the burden of presenting a prima facie case of

obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d

1443, 1444 (Fed. Cir. 1992).

With respect to independent claims 1, 8, and 10, the Examiner seeks to modify the free electron laser system of Brau by asserting the obviousness of supplying the missing beam quality determining feature. In the Examiner's view, the skilled artisan would have found it obvious to determine the quality of the output beam in Brau and to adjust the RF feedback signal accordingly for the purpose of enhancing the laser output.

While Appellants have made several arguments in response, the primary thrust of the arguments centers on the alleged deficiency of Brau in disclosing any structure which is responsive to both the generated electron beam and to the

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generated microwaves to develop a conditioned electron beam.

We note that the relevant portion of independent claim 1

recites:

a magnetic wiggler responsive to the
electron beam from said producing means
and to the microwaves from said
generating means for developing the
conditioned electron beam of final quality
....

The Examiner contends that the illustrated Figure 1 embodiment in Brau including wiggler 22 meets the above recited feature.

Upon careful review of the Brau reference, however, we agree with Appellants' stated position in the Briefs. It is apparent from Brau's Figure 1 illustration and accompanying description that wiggler 22 is not responsive to both the electron beam and to generated microwaves to develop a conditioned beam. As pointed out by Appellants (supplemental Reply Brief, page 5), only the electron beam 20 is applied to the wiggler 22 in Brau with microwave energy applied only to accelerator 12.

We note that Appellants and the Examiner have reiterated arguments as to the nature of the optical cavity defined by the optical reflectors 24 and 26 in Brau. In our view, the

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question as to whether a laser beam is produced in Brau's optical cavity and whether wiggler 22 is part of this laser beam generation is of no moment in deciding the issues on appeal. It is our opinion that neither the wiggler structure nor any other component in Brau is responsive to both microwave energy and an accelerated electron beam to develop a conditioned beam as claimed. Since all the limitations of independent claims 1, 8, and 10 are not suggested by the prior art, we cannot sustain the Examiner's rejection of appealed claims 1, 8, and 10 nor of claims 6, 7, and 10-14, which depend therefrom.

As to the 35 U.S.C. § 103 rejection of dependent claims 11 and 15 based on the combination of Brau and Piestrup, we note that Piestrup was applied solely to meet the waveguide limitations of the claims. Piestrup, however, does not overcome the innate deficiencies of Brau and therefore, we do not sustain the obviousness rejection of claims 11 and 15.

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In conclusion, we have not sustained the Examiner's rejection of any of the claims on appeal under 35 U.S.C. § 103. Accordingly, the decision of the Examiner rejecting claims 1, 6-8, and 10-15 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	
)	
)	BOARD OF PATENT
JOHN C. MARTIN)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	

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APJ RUGGIERO

APJ MARTIN

APJ HAIRSTON

DECISION: REVERSED
Send Reference(s): Yes No
or Translation (s)
Panel Change: Yes No
Index Sheet-2901 Rejection(s): _____

Prepared: November 17, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
DISK (FOIA) / REPORT